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CHIP BOARD
LAMINATED CHIP BOARD
AND MISCELLANEOUS BOARDS FOR BOOKBINDING PURPOSES

COMMERCIAL STANDARD CS49–34

Effective Date for New Production December 15, 1934

A RECORDED STANDARD OF THE INDUSTRY

**Approved by the American Standards Association
as American Standard on January 9, 1935**

UNITED STATES
GOVERNMENT PRINTING OFFICE
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U. S. Department of Commerce National Bureau of Standards

PROMULGATION

of

COMMERCIAL STANDARD CS49–34

for

CHIP BOARD, LAMINATED CHIP BOARD, AND MISCELLANEOUS BOARDS FOR BOOKBINDING PURPOSES

At the instance of the Employing Bookbinders of America, and later the Book Manufacturers Institute, representing the chief users of the product, a recommended commercial standard covering chip board and miscellaneous boards for bookbinding purposes was widely circulated for written acceptance. The industry has since accepted and approved for promulgation by the U. S. Department of Commerce, through the National Bureau of Standards, the standard as shown herein.

The standard became effective for new production December 15, 1934.

Promulgation recommended.

I. J. Fairchild,
Chief, Division of Trade Standards.

Promulgated.

Lyman J. Briggs,
Director, National Bureau of Standards.

Promulgation approved.

Daniel C. Roper,
Secretary of Commerce.

CHIP BOARD, LAMINATED CHIP BOARD, AND MISCELLANEOUS BOARDS FOR BOOKBINDING PURPOSES

COMMERCIAL STANDARD CS49–34

SCOPE

DEFINITION

1. For the purpose of establishing definite specifications for boards other than binders board used in bookbinding this general definition is accepted:

Chip board, laminated chip board, and miscellaneous boards for bookbinding purposes are any kind of pulpboard, single ply, laminated, or otherwise manufactured, used for covers or cover stiffening in books and for other bookbinding purposes.

CLASSIFICATION

2. Such boards are divided into classes and grades as shown below; the general definition for the various classes and grades being subject to the specific data given under "Specific Requirements" for the corresponding class and grade.

Class 1.—Chip board

A single-ply board of relatively low density made from a base stock of mixed papers, to a maximum thickness of 72 points (0.072 inch).

Class 2.—Laminated chip and other boards

Grade A.—A board made by laminating boards of class 1.

Grade B.—A board made by laminating chemical wood-pulp boards.

Class 3.—Miscellaneous boards

Grades.—In this class appear such varieties of board as news, cornstalk, chestnut-chip, straw, tag, red (rope) flexible, etc. According to present plans, specifications will be developed for these materials and grades established as the need arises. No attempt is made to classify them into grades at the present time.

GENERAL REQUIREMENTS

SURFACE

3. Boards of all classes and grades shall be free from surface lumps and reasonably smooth and flat; the usable portion of the sheet shall be reasonably free of imperfections.

DESIGNATION

4. Boards of classes 1 and 2 are purchased by weight; the size, thickness, class, and grade being specified. The weight is to be net weight. The specified size of the board, expressed in inches, is exclusive of trim. Thickness is expressed either in points or in parts of an inch, a point being one-thousandth part of an inch. The bursting strength is expressed in pounds per square inch pressure, and the density in grams per cubic centimeter.

STANDARD BUNDLE WEIGHT

5. Boards of classes 1 and 2 shall be put up in bundles, the standard bundle weighing 50 pounds. A tolerance of plus or minus 3 pounds is allowed on individual bundles.

THICKNESS TOLERANCE

6. A variation of 0.003 inch (3 points) above or below the specified thickness is permitted.

DIRECTION OF GRAIN

7. Unless the direction of the grain is otherwise specified by the purchaser, the grain will be understood to run parallel to the direction of the second dimension of area.

DETAIL REQUIREMENTS

8. Each class of board shall meet the requirements of its class and grade as given in table 1, as well as the requirements which refer to physical qualities, methods of test, etc.; all tests being made according to the methods herein described.

CLASS 1. CHIP BOARD

SPECIFIC REQUIREMENTS

9. *Color.*—The natural pulp color, without the addition of coloring matter, shall be regarded as the standard.

10. *Density.*—The average density shall be 0.65 gram, plus or minus 0.05 gram, per cubic centimeter.

11. *Trim.*—Boards shall be trimmed to the size ordered.

12. *Thickness and bursting strength.*—The thickness and bursting strength shall conform with the requirements of table 1, class 1.

CLASS 2. LAMINATED CHIP AND LAMINATED CHEMICAL WOOD-PULPBOARD

SPECIFIC REQUIREMENTS

13. *Color.*—The natural pulp color, without the addition of coloring matter, shall be regarded as the standard.

14. *Density.*—The average density of laminated chip board, grade A, and laminated wood-pulp board, grade B, shall be 0.65 gram and 0.70 gram plus or minus 0.05 gram, per cubic centimeter, respectively.

15. *Trim.*—Boards shall be trimmed to the size ordered.

16. *Thickness and bursting strength.*—The thickness and bursting strength shall conform with the requirements of table 1, class 2, grade A, and class 2, grade B.

TABLE 1.—*Thickness and bursting strength*

Thickness (inch)	Thickness (points)	Bursting strength (lb/in.²)	Thickness (inch)	Thickness (points)	Bursting strength (lb/in.²)	Thickness (inch)	Thickness (points)	Bursting strength (lb/in.²)
CLASS 1. CHIP BOARD								
0.040	40	65	0.050	50	85	0.060	60	105
.045	45	75	.055	55	95	.065	65	115
CLASS 2. GRADE A, LAMINATED CHIP BOARD								
0.050	50	100	0.075	75	150	0.100	100	200
.055	55	110	.080	80	160	.105	105	210
.060	60	120	.085	85	170	.110	110	220
.065	65	130	.090	90	180	.115	115	230
.070	70	140	.095	95	190	.120	120	240
CLASS 2. GRADE B, LAMINATED CHEMICAL WOOD-PULPBOARD								
0.050	50	160	0.075	75	235	0.100	100	310
.055	55	175	.080	80	250	.105	105	325
.060	60	190	.085	85	265	.110	110	340
.065	65	205	.090	90	280	.115	115	355
.070	70	220	.095	95	295	.120	120	370

METHODS OF SAMPLING AND TESTING

ALL CLASSES AND GRADES

17. *Sampling for tests.*—The test sample used for making thickness, density, and bursting-strength determinations shall consist of 10 specimens cut 10 by 10 inches, each specimen being cut from a different board. Where a delivery consists of less than 30 bundles, not less than 3 bundles shall be sampled. On all deliveries of 30 bundles or more, at least 10 percent of the bundles shall be sampled, except where a delivery consists of more than 100 bundles, in which event 10 bundles shall be sampled.

18. *Control testing.*—For ordinary control testing, the prevailing temperature and humidity conditions are satisfactory. In controversial cases the specimens shall be tested at 70° F and at 50 percent to 65 percent relative humidity after being exposed to this condition for 72 hours. Such tests may be made in any accredited commercial testing laboratory satisfactory to both buyer and seller.

19. *Thickness.*—Twenty readings shall be made, 2 on each of the 10 test specimens cut 10 by 10 inches. Each of the 20 individual readings shall not vary over 0.003 inch above or below the thicknesses given under specific requirements for the class, grade, and thickness ordered. In test reports thickness shall be expressed in decimal parts of an inch.

20. *Density.*—The average density is computed from the thickness and the weight per unit area. The 10 test specimens are weighed together accurately to the nearest gram and the average weight of

one test specimen is determined. The density is calculated according to the following formula:

$$\left.\begin{matrix}\text{Average}\\ \text{density}\\ (\text{g/cm}^3)\end{matrix}\right\} = \frac{\text{average weight of one test specimen in grams}}{\left.\begin{matrix}\text{area of test}\\ \text{specimen}\\ (\text{in.}^2)\end{matrix}\right\} \times \left\{\begin{matrix}\text{average thickness}\\ \text{of test specimen}\\ \text{in decimal parts}\\ \text{of an inch}\end{matrix}\right\} \times 16.39}$$

21. *Bursting strength.*—In determining the bursting strength, 20 bursts shall be made, one on each side of the 10 test specimens. The average of the 20 bursts shall be reported as the average bursting strength. The average bursting strength shall be not lower than the figures given under specific requirements for the class, grade, and thickness ordered.

GUARANTEE LABEL

22. The following illustrates the guarantee statement to be used by the manufacturers, which is to be applied by rubber stamp to one outside sheet of each bundle:

The ---------- Company, manufacturer, certifies that this class ----------, grade ---------- of ---------- thickness, ---------- size complies with all requirements specified in Commercial Standard CS49–34 issued by the United States Department of Commerce and approved by the American Standards Association. The liability of the manufacturer shall be limited to the replacement of board, before it has been cut.

EFFECTIVE DATE

The standard became effective for new production December 15 1934.

STANDING COMMITTEE

The following comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress:

Book Manufacturers Institute;

E. W. Palmer (*chairman*), Chairman, Research Committee, Book Manufacturers Institute, in care of Kingsport Press, Inc., Kingsport, Tenn.

F. R. Blaylock, research associate, Book Manufacturers Institute, in care of Government Printing Office, Washington, D. C.

Raymond E. Baylis, Eugene C. Lewis Co., 461 Eighth Avenue., New York, N. Y.

Manufacturers and Distributors of Boards for Bookbinding Purposes;

A. J. Brookover, Downingtown Paper Co., Downingtown, Pa.

E. R. Harris, Mead Sales Corporation, 230 Park Avenue, New York, N. Y.

E. C. Betz, vice president, Consolidated Paper Co., Monroe, Mich.

National Association of Book Publishers;

John Benbow, Longmans, Green & Co., 114 Fifth Avenue, New York, N. Y.

HISTORY OF PROJECT

The general conference on binders board (see CS50–34) held in New York City on October 14, 1931, appointed a joint committee of representatives of the Binders Board Manufacturers Association and the

Book Manufacturers Institute for harmonization of some unsettled requirements. In connection with the work of this committee, the Book Manufacturers Institute submitted a specification for chip board, laminated chip board and miscellaneous boards for bookbinding purposes, which epitomized results obtained by F. R. Blaylock, research associate at the United States Government Printing Office, and which had been prepared in consultation with producers, distributors, and users of chip board.

This specification was first presented as a part of a broader specification to include all paper boards for bookbinding purposes, but on recommendation of the joint committee on April 19, 1934, it was decided to consider binders board separately. Accordingly, on May 23, 1934 the Recommended Commercial Standard for Chip Board was circulated for written acceptance, and announcement of success of the project was issued on October 19, 1934.

AMERICAN STANDARD

This commercial standard was approved as American Standard by the American Standards Association on January 9, 1935.

ACCEPTANCE OF COMMERCIAL STANDARD

This sheet, properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.

Date _____

Division of Trade Standards,
National Bureau of Standards,
Washington, D. C.

GENTLEMEN:

Having considered the statements on the reverse side of this sheet, we accept the commercial standard CS49–34 as our standard of practice in the {production [1] / distribution [1] / use [1]} of chip board, laminated chip board, and miscellaneous boards for bookbinding purposes.

We will assist in securing its general recognition and use, and will cooperate with the standing committee to effect revisions of the standard when necessary.

(Cut along this line)

Signature _____

(Kindly typewrite or print the following lines)

Title _____

Company _____

Street address _____

City and State _____

[1] Please designate which group you represent by drawing lines through the other two. In the case of related interests, trade papers, colleges, etc., desiring to record their general approval the words "In principle" should be added after the signature.

101122—35——2

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial standards are commodity specifications voluntarily established by mutual consent of the industry. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the industry as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of commercial standards is to establish for specific commodities, nationally recognized grades or consumer criteria and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of commercial standards on a Nation-wide basis is fourfold: First, to act as an unbiased coordinator to bring all branches of the industry together for the mutally satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by companies representing a satisfactory majority of production, the success of the project is announced. If, however, in the opinion of the standing committee of the industry or the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

ACCEPTORS

Individuals and organizations listed below have indicated in writing, acceptance of this specification as their standard of practice, but such endorsement does not signify that they may not find it necessary to deviate from the standard, nor that they guarantee all of their products to conform with the requirements of this standard.

ASSOCIATIONS

American Child Health Association, New York, N. Y. (In principle.)
Bible Institute Colportage Association, The, Chicago, Ill.
Book Manufacturers' Institute, Inc., New York, N. Y.
Christian Board of Publication, St. Louis, Mo.
Council on Foreign Relations, Inc., New York, N. Y. (In principle.)
Employing Bookbinders of America, New York, N. Y.
National Association of Book Publishers, New York, N. Y.
Review and Herald Publishing Association, Washington, D. C.
Southern Publishing Association, Nashville, Tenn.
Union of American Hebrew Congregations, Cincinnati, Ohio.

FIRMS

Acco Products, Inc., Long Island City, N. Y.
Adams Bookbinding Co., Brooklyn, N. Y.
Adams, Cushing & Foster, Inc., Boston, Mass.
Aldine Paper Co., New York, N. Y.
Allen Co., Thornton W., New York, N. Y.
Allen Printing Co., Jackson, Mich.
Alling & Cory Co., The, Buffalo, N. Y., and New York, N. Y.
Altemus & Co., Inc., Philadelphia, Pa.
American Baptist Publication Society, Philadelphia, Pa.
American Beauty Cover Co., Dallas, Tex.
American Loose Leaf Binder Co., St. Louis, Mo.
American Paper Manufacturing Co., Inc., New Orleans, La.
American Printing and Blank Book Corporation, New York, N. Y.
Anderson Co., The W. H., Cincinnati, Ohio.
Andrews Co., O. B., Chattanooga, Tenn. (In principle.)
Andrews Paper House of York, Division S. Walter, Inc., York, Pa.
Antietam Paper Co., Inc., Hagerstown, Md.
Arco Manifolding Co., Inc., The, New York, N. Y.
Argus Books, Chicago, Ill.
Arnold Bindery Co., Philadelphia, Pa.
Art Bindery, The, Seattle, Wash.
Arvia Bindery, Chicago, Ill.
Ashland Bookbindery, Chicago, Ill.
Augsburg Publishing House, Minneapolis, Minn.
Augustana Book Concern, Rock Island, Ill.
Austin & MaGill, Inc., New York, N. Y.
Baker, Jones, Hausauer, Inc., Buffalo, N. Y.
Baldwin & Sons, A. C., Austin, Tex.
Baldwin Paper Co., Inc., New York, N. Y.
Banks Upshaw & Co., Dallas, Tex.
Barber's Sons, James S., Philadelphia, Pa.
Bath Co., Ltd., M. L., Shreveport, La.
Battle Creek Sales Book Co., Inc., Battle Creek, Mich.
Bayne Co., The James, Grand Rapids, Mich.
Beacon Paper Co., St. Louis, Mo.
Beckley-Cardy Co., Chicago, Ill.
Beck-Nor Accounting System Co., The, Salina, Kans.
Becktold Co., The, St. Louis, Mo.
Beecher, Peck & Lewis, Flint, Mich.
Beil & Evans Co., The, Youngstown, Ohio.
Bellingham Bookbindery, South Bellingham, Wash.
Bellows Reeve Co., Chicago, Ill.
Berkheimer Manufacturing Co., I. E., Tacoma, Wash. (In principle.)
Bethlehem Bookbindery, Bethlehem, Pa.
Bishop Paper Co., Inc., New York, N. Y. (In principle.)
Blackwell Wielandy Co., St. Louis, Mo.
Blake, Moffitt & Towne, San Francisco, Calif. (and other offices).
Bonestell & Co., San Francisco, Calif.

Bookwalter-Ball-Greathouse Printing Co., Indianapolis, Ind.
Boone Blank Book Co., Boone, Iowa.
Boston Bookbinding Co., Inc., Cambridge, Mass.
Bouer Paper Co., The, Milwaukee, Wis. (In principle.)
Bradley & Scoville, Inc., New Haven, Conn.
Brandt Printing and Binding Co., Manitowoc, Wis.
Braunworth & Co., Inc., Brooklyn, N. Y.
Brock & Rankin, Chicago, Ill.
Broome Printing Co., Binghampton, N. Y.
Brown Printing and Binding Co., M. B., New York, N. Y.
Burgmeier Book Bindery, Inc., Chicago, Ill.
Burke & Gregory, Inc., Norfolk, Va.
Burkhardt Co., Detroit, Mich.
Butte Paper Co., The, Butte, Mont.
Byam Printing Co., The, North Adams, Mass.
Cadillac Book Binding Co., Detroit, Mich.
California Press, University of, Berkeley, Calif.
Capital City Bindery, Salem, Oreg.
Capitol Book Bindery, Inc., Chicago, Ill.
Carpenter Paper Co. of Utah, Salt Lake City, Utah.
Carter & Co., Inc., John, Hartford, Conn.
Carter Paper Co., The, Springfield, Mass.
Carter Rice & Co., Corporation, San Francisco Division, San Francisco, Calif.
Caxton Printers, Ltd., The, Caldwell, Idaho.
Cental Bindery Co., Des Moines, Iowa.
Central Publishing House, Cleveland, Ohio.
Chatfield Co., The Minotte E., New Haven, Conn.
Chaucer Head Book Shop, Inc., New York, N. Y.
Chemical Catalog Co., Inc., The, New York, N. Y.
Chesapeake Paperboard Co., The, Baltimore, Md.
Chicago Binder and File Co., Chicago, Ill.
Chicago Press, The University of, Chicago, Ill.
Chivers Book Binding Co., Inc., Brooklyn, N. Y.
Christopher Publishing House, Boston, Mass.
Church Co., William A., Ithaca, N. Y.
Claflin & Co., Inc., W. H., Boston, Mass. (In principle.)
Clark Printing and Binding Co., Inc., W. R., New York, N. Y.
Clarke Press, The, Manchester, N. H.
Clarke Publishing Co., Inc., S. J., Indianapolis, Ind.
Cleveland Book Binding Co., Cleveland, Ohio.
Coast Envelope and Leather Products Co., Los Angeles, Calif.
Cole Printing Co., Will H., Pittsburgh, Pa.
Coleman Co., Geo., Boston, Mass.
Colorado, University of, Boulder, Colo.
Commercial Bindery, Inc., The, Detroit, Mich.
Commercial Bookbinding Co., The, Cleveland, Ohio.
Commercial Press, Pittsburgh, Pa.
Concordia Publishing House, St. Louis, Mo.
Conkey Co., W. B., Hammond, Ind.
Conklin Co., Inc., The, Newark, N. J.
Conolly Co., Henry, Rochester, N. Y.
Continental Artcrafts, San Diego, Calif.
Continental Paper Co., Ridgefield Park, N. J.
Cook Printshop, The Henry, Elizabeth, N. J.
Cooperative Bindery Co., San Francisco, Calif.
Co-Operative Publishing Co., Guthrie, Okla.
Copeland Co., Inc., Lewis, New York, N. Y.
Cornwall Press, Inc., New York, N. Y.
Cottrell-Allen-Clarke, Inc., Detroit, Mich.
Cramer-Force Co., Inc., The, Rochester, N. Y.
Crescent Book Bindery, Chicago, Ill.
Crowell Co., Thomas Y., New York, N. Y.
Cuneo Co., John F., Chicago, Ill.
Cupples & Leon Co., New York, N. Y.
Curtiss Philosophic Book Co., The, Washington, D. C.
Daeuble Bookbinding Co., El Paso, Tex.
Dayton Blank Book & Printing Co., Dayton, Ohio.
Decatur Paper House, Inc., The, Decatur, Ill. (In principle.)
Dejonge & Co., Louis, New York, N. Y.
Diem & Wing Paper Co., The, Cincinnati, Ohio.
Dillingham's, Bangor, Maine.
Dittus, Rudolph C., Teaneck, N. J.
Dixon & Co., Denver, Colo.
Dixon & Co., Salt Lake City, Utah.
Dodd, Mead & Co., New York, N. Y.
Dodge Publishing Co., New York, N. Y.
Dodsworth Stationery Co., Samuel, Kansas City, Mo.
Doubleday, Doran & Co., Inc., Garden City, N. Y.
Duluth Paper and Specialties Co., Duluth, Minn.

Duluth Ruling and Binding Co., Duluth, Minn.
Dura Binding Co., Marlboro, Mass.
Dyson Paper Board Co., Philadelphia, Pa.
Eagle Printing Co., Marinette, Wis.
Eagle Printing and Binding Co., Pittsfield, Mass.
Earl & Son, N. R., Fall River, Mass.
Educator Supply Co., Mitchell, S. Dak.
Eggeling Book Bindery, New York, N. Y.
Elbe File and Binder Co., Inc., New York, N. Y.
Enderlin & Son, F., Newark, N. J.
Engel & Son, H., Kansas City, Mo.
Eugenics Publishing Co., Inc., New York, N. Y.
Evangelical Press, Harrisburg, Pa.
Ewing Paper Co., B. G., Spokane, Wash.
Excelsior Printing Co., N. Adams, Mass. (In principle.)
Falconer Co., The, Baltimore, Md.
Falk Publishing Co., New York, N. Y. (In principle.)
Faxon Loose Leaf Co., Philadelphia, Pa.
Federbush Co., Inc., The, New York, N. Y.
Fibreboard Products, Inc., San Francisco, Calif.
Financial Publishing Co., Boston, Mass. (In principle.)
Finch & McCullouch, Aurora, Ill.
Flammger and Grahl Blank Book Co., St. Louis, Mo.
Flanigan-Pearson Co., Champaign, Ill.
Fleming & Co., Inc., C. B., Norwood, Mass.
Flynn, Inc., William F., St. Louis, Mo.
Follett Publishing Co., Chicago, Ill.
Forbes Publishing Co., B. C., New York, N. Y.
Fort Hill Press, The, Boston, Mass.
Fort Pitt Lithographing Co., Pittsburgh, Pa.
Franklin Bindery, Inc., The, Chicago, Ill.
Franklin Publishing and Supply Co., Philadelphia, Pa. (In principle.)
Freygang Publishing Co., San Francisco, Calif.
Funke Sons Co., Ferdinand, Evansville, Ind.
Funk & Wagnalls Co., New York, N. Y.
Gammel's, Inc., Austin, Tex.
Gane Bros. & Lane, Inc., Chicago, Ill.
Gane Bros. & Lane, Inc., St. Louis, Mo.
Garber Co., The A. L., Ashland, Ohio.
Gardiner Binding and Mailing Co., New York, N. Y. (In principle.)
Garrett and Massie, Inc., Richmond, Va.
General Bookbinding Co., Cleveland, Ohio.
General Pass Book Corporation, Ste. Genevieve, Mo.
Geographical Publishing Co., The, Chicago, Ill.
G. H. Bindery, New York, N. Y.
Gilmartin Co., Inc., San Francisco, Calif.
Ginn & Co., E. Cambridge, Mass.
Globe Book Co., New York, N. Y.
Globe Printing and Binding Co., Parkersburg, W. Va.
Gotham-Ebert, Inc., New York, N. Y.
Grabau Art Bookbinding Studio, John F., Buffalo, N. Y.
Graham Paper Co., St. Louis, Mo.
Grand Rapids Loose Leaf Binder Co., Grand Rapids, Mich.
Grand Rapids Paper Co., Grand Rapids, Mich.
Great Falls Paper Co., Great Falls, Mont.
Grimm Book Bindery, Madison, Wis.
Groneweg Printing Co., Dayton, Ohio. (In principle.)
Grossett & Dunlap, Inc., New York, N. Y.
Gruver Co., Edward F., Washington, D. C. (In principle.)
Gubitz & Sons, W. F., Glens Falls, N. Y.
Guide Printing Co., Inc., Brooklyn, N. Y.
Guerney, Bernard Guilbert, New York, N. Y.
Haddon Book Bindery, Inc., The, Camden, N. J.
Hale, Cushman & Flint, Inc., Boston, Mass. (In principle.)
Hall and McChesney, Inc., Syracuse, N. Y.
Hall Co., Norman F., San Francisco, Calif.
Halltown Paper Board Co., Halltown, W. Va.
Hano Co., Inc., Philip, Holyoke, Mass.
Harper & Bros., New York, N. Y.
Hartmann-Bruderlin Printing Co.,The, Denver, Colo.
Hartung & Co., A., Philadelphia, Pa.
Hartwell-Warner Corporation, Hollywood, Calif.
Hassenfeld Bros., Inc., Providence, R. I.
Haverhill Boxboards, Inc., Haverhill, Mass.
Haynes Bookbinding Co., Schenectady, N. Y.
Heitman-Garand Co., Detroit, Mich.
Henley Publishing Co., Norman W., New York, N. Y.
Herman Book Bindery, Mandel, Chicago, Ill.
Hertzberg and Craftsmen, Arthur, Chicago, Ill.

Hertzberg Bindery, Des Moines, Iowa.
Hewitt & Bros., Inc., C. B., New York, N. Y.
Heywood Bookbinding Co., West Springfield, Mass.
Hillig Book Bindery, Frank, St. Louis, Mo.
Hinde & Dauch Paper Co., The, Sandusky, Ohio.
Hine & Co., Edward, Peoria, Ill.
Hobart Paper Co., Chicago, Ill.
Hoboken Bookbindery, Hoboken, N. J.
Hopper Paper Co., Inc., Richmond, Va. (In principle.)
Hornig Ruling and Binding Co., Minneapolis, Minn.
Houck Bindery, D. M., Reading, Pa.
Housh Co., Inc., The, Boston, Mass.
Hubbs & Co., Charles F., New York, N. Y.
Hubbs & Hastings Paper Co., Rochester, N. Y.
Huse Publishing Co., The, Norfolk, Nebr.
Ideal Bookbinding Co., The, Cleveland, Ohio.
Illustrated Editions Co., Inc., New York, N. Y.
Imperial Ruling and Binding Co., Pittsburgh, Pa.
Import Publications, Inc., New York, N. Y.
Indiana Paper Co., Indianapolis, Ind.
Inland Printing Co., Springfield, Mo.
International Textbook Press, Scranton, Pa.
Irwin-Hodson Co., The, Portland, Oreg. (In principle.)
Irwin Paper Co., Chicago, Ill. (In principle.)
J. L. Bindery, Chicago, Ill.
Johnson Publishing Co., Richmond, Va.
Johnson Co., Inc., Wm. R., Seattle, Wash.
Jontzen Printing Co., Cleveland, Ohio.
Judy Publishing Co., Chicago, Ill.
Keystone Bindery, Inc., New York, N. Y.
Keystone Printing and Binding Co., Harrisburg, Pa.
King Printing Co., Bristol, Tenn.
Kingsport Press, Inc., Kingsport, Tenn.
Knapp-Printing, Pittsburgh, Pa.
Knight Bros. Paper Co., Jacksonville, Fla.
Knoll, A., Bookbindery, New York, N. Y.
Kohlhaas Co., The, Chicago, Ill. (In principle.)
Kolarik Bookbinding Co., Cedar Rapids, Iowa.
Kroner & Co., Wm. F., Cincinnati, Ohio. (In principle.)
Kuenstner & Lucie Paper Co., Inc., New York, N. Y.
Lafayette Printing Co., Lafayette, Ind.
Languille & Co., V. J., Spokane, Wash.
Lasher Printing Co., George F., Philadelphia, Pa.
Laux & Co., A. J., Lockport, N. Y.
Lawrence Bindery Co., Lawrence, Mass.
Law Co., Robert O., Chicago, Ill.
Lea & Febiger, Philadelphia, Pa. (In principle.)
Lee Co., The Wilson H., Orange, Conn.
Leland, Inc., Samuel R., New York, N. Y.
Leslie Paper Co., F. G., St. Paul, Minn.
Lewis Co., Eugene C., New York, N. Y.
Lewis Historical Publishing Co., Inc., New York, N. Y.
Liberty Paper Board Co., Inc., Steubenville, Ohio.
Library Bindery, St. Louis, Mo.
Linde Paper Co., J. E., New York, N. Y.
Linotype Printing Co., Memphis, Tenn.
Little, Brown & Co., Cambridge, Mass.
Lloyd Co., W. G., Chicago, Ill.
Login & Son, Inc., B., New York, N. Y
Lokke Bookbindery, Los Angeles, Calif.
Longmans, Green & Co., New York, N. Y.
Louisville Paper Co., Louisville, Ky.
Lutheran Book Concern, The, Columbus, Ohio.
Mack Printing Co., Easton, Pa.
Macmillan Co., The, New York, N. Y.
Magee Bros. Co., The, Piqua, Ohio.
Majestic Paper Corporation, New York, N. Y.
Marshall and Bruce Co., Nashville, Tenn.
Marvel Bindery Co., Inc., New York, N. Y.
Master-Craft Corporation, Kalamazoo, Mich.
McBee Co., The, Athens, Ohio.
McBride & Co., Robert M., New York, N. Y.
McKee Printing Co., Butte, Mont.
McLoughlin Bros., Inc., Springfield, Mass.
McMillan Book Co., Syracuse, N. Y.
Mead Paperboard Corporation, The, Chillicothe, Ohio.
Mead Sales Co., The, New York, N. Y.
Mennonite Publishing House, Scottdale, Pa.
Messinger Paper Co., Chicago, Ill.
Mexico Bank-Supply Co., Mexico, Mo.
Michigan, The University of, Ann Arbor, Mich.
Midwest Publishers Co., Minneapolis, Minn.
Midwestern Paper Co., Kansas City, Mo.
Miller Blank Book Co., Fred R., Williamsport, Pa.
Millar & Co., Inc., Geo. W., New York, N. Y.
Miller-Davis Co., Minneapolis, Minn.

Miller Press, The, Jacksonville, Fla.
Mississippi Valley Paper Co., St. Louis, Mo.
Mitchell Publishing Co., Mitchell, S. Dak.
Modern Library, Inc., New York, N. Y.
Modern Bookbinding Co., New York, N. Y.
Mohawk Book Bindery, Schenectady, N. Y.
Monitor Binding and Printing Co., Fort Scott, Kans.
Monmouth Blank Book Co., Monmouth, Ill.
Monroe Paper Co., Inc., Monroe, Mich. (In principle.)
Moore & Co., Inc., Baltimore, Md.
Morehouse Publishing Co., Milwaukee, Wis.
Morgantown Printing and Binding Co., Morgantown, W. Va.
Morton & Co., John P., Louisville, Ky.
Moser Paper Co., Chicago, Ill.
Motter Bookbinding Co., Muskogee, Okla.
Murphy-Travis Co., Minneapolis, Minn.
Nankervis Co., C. T., Indianapolis, Ind.
Nassau Paper Co., Minneapolis, Minn.
Natick Box and Board Co., Natick, Mass.
National Blank Book Co., Holyoke, Mass.
National Bureau of Economic Research, New York, N. Y. (In principle.)
National Edition and Library Bindery, New York, N. Y.
National Library Bindery Co., The, East Cleveland, Ohio.
National Library Bindery Co., Philadelphia, Pa.
National Library Bindery Co., Indianapolis Branch, Indianapolis, Ind.
National Library Bindery Co., The, West Springfield, Mass.
National Publishing Co., Philadelphia, Pa.
Nelson Printing and Stationery Co., St. Joseph, Mo.
Nelson Publishing Co., C. C., Appleton, Wis.
New England, The Paper House of, Springfield, Mass. (In principle.)
Newhouse Paper Co., Minneapolis, Minn.
Newman & Co., S. B., Knoxville, Tenn.
Newport News Overfold Co., Newport News, Va.
New York Times Co., The, New York, N. Y.
Nickerson & Collins Co., Chicago, Ill. (In principle.)
North & Co., Jacob, Lincoln, Nebr.
North Carolina Press, The University of, Chapel Hill, N. C.
Northwestern Bindery, The, Evanston, Ill.
Northwestern Publishing House, Milwaukee, Wis.
Oberly & Newell, New York, N. Y.
Ogilvie Publishing Co., J. S., New York, N. Y.
Ohio Boxboard Co., The, Rittman, Ohio.
Ohio State Bindery, Columbus, Ohio.
Old Dominion Paper Co., The, Norfolk, Va.
Old Dominion Press, Inc., Richmond, Va.
Open Court Publishing Co., The, Chicago, Ill. (In principle.)
Optic Bindery, Baltimore, Md.
Oregon Bookbinding Co., The, Portland, Oreg.
Oregon, University of, The University Press, Eugene, Oreg.
Owen Publishing Co., F. A., Dansville, N. Y.
Oxford Book Co., New York, N. Y. (In principle.)
Pacific Coast Paper Co., Fresno, Calif.
Pacific Coast Publishing Co., Santa Barbara, Calif.
Pacific Library Binding Co., Los Angeles, Calif.
Paine Publishing Co., Dayton, Ohio.
Pairpoint Corporation, The, New Bedford, Mass. (In principle.)
Palmer Co., The, Boston, Mass.
Palmer & Co., Ltd., E. C., New Orleans, La.
Palmer & Co., Ltd., E. C., Tampa, Fla.
Palmer Corporation, Lester W., New York, N. Y.
Paper Manufacturers Co., Inc., Philadelphia, Pa. (In principle.)
Paper Supply Co., The, Houston, Tex.
Paragon Binder Corporation, New York, N. Y.
Parke, Davis & Co., Detroit, Mich.
Parker, C. A. A., Medford, Mass.
Parker Paper and Twine Co., High Point, N. C. (In principle.)
Pease Co., The C. F., Chicago, Ill.
Peerless Album Co., Inc., New York, N. Y.
Peerless Printing Corporation, Marion, Ind.
Pencil Points Press, Inc., The, New York, N. Y.
Penn Card and Paper Co., Inc., Philadelphia, Pa.
Perry Book and Bindery Co., Fond du Lac, Wis.
Peterson Lithograph and Printing Co., Omaha, Nebr.
Philadelphia Bindery, Inc., The, Philadelphia, Pa.
Pill Bros. Co., Sioux City, Iowa. (In principle.)
Pioneer, Inc., Tacoma, Wash.
Plymouth Bindery, Chicago, Ill.

Poetry Publishers, Philadelphia, Pa.
Polk & Co., R. L., Detroit, Mich. (In principle.)
Port Huron Sulphite and Paper Co., Port Huron, Mich. (In principle.)
Portland Printing House, Inc., Portland, Oreg.
Post Co., The H. H., Denver, Colo. (In principle.)
Pratt Institute Free Library, Brooklyn, N. Y. (In principle.)
Prime Co., Inc., Charles H., New York, N. Y. (In principle.)
Princeton University Press, Princeton, N. J.
Progress Bookbinding Co., Cincinnati, Ohio. (In principle.)
Progressive Ruling & Binding Co., New York, N. Y.
Prospect Press, Inc., New York, N. Y.
Provence, Jarrard & Martin, Greenville, S. C.
Publishers Printing Co., New York, N. Y.
Pugh Printing Co., The A. H., Cincinnati, Ohio.
Purvis, Walter S., Utica, N. Y.
Quality Book Binding Co., New York, N. Y.
Queen City Paper Co., Cincinnati, Ohio.
Quincy Bookbindery, Quincy, Mass.
Ready Reference Publishing Co., New York, N. Y.
Reinhold Publishing Corporation, New York, N. Y.
Remington Rand, Inc., Buffalo, N. Y.
Republic Publishing Co., Yakima, Wash.
Resch Printing and Binding Co., The, Sheboygan, Wis.
Revell Co., Fleming H., New York, N. Y. (In principle.)
Right Bindery & Printery, The, Allentown, Pa.
River Raisin Paper Co., Monroe, Mich.
Riverside Paper Corp., Appleton, Wis. (In principle.)
Riverside Printing Co., Port Huron, Mich.
Rogers Co., Inc., John C., New York, N. Y.
Rohner Paper Co., Akron, Ohio.
Rowland Paper Co., Louisville, Ky.
Royal Card & Paper Co., New York, N. Y.
Rutter & McNaught, Inc., Boston, Mass.
St. Louis Public Library, St. Louis, Mo. (In principle.)
San Antonio Paper Co., San Antonio, Tex.
Schwarz Paper Co., Lincoln, Nebr.
Scioto Paper Co., Columbus, Ohio.
Scribner Press, New York, N. Y.
Searcy & Pfaff, Ltd., New Orleans, La.
Seavey Co., The, Portland, Maine.
Seeman Printery, Inc., The, Durham, N. C.
Service Bindery, Chicago, Ill.
Shelby Salesbook Co., The, Shelby, Ohio.
Sherman Printing and Binding Co., Seattle, Wash.
Shiner-Sien Paper Co., San Antonio, Tex.
Slade, Hipp & Meloy, Inc., Chicago, Ill.
Smith Printing Co., Williamsport, Lycoming County, Pa.
Snyder Manufacturing Co., Inc., W. W., Cohoes, N. Y.
Sonoco Products Co., Hartsville, S. C.
Southern Publishing Co., Dallas, Tex.
Southwestern Paper Co., Houston, Tex.
Southwest Press, Inc., The, Dallas, Tex.
Southworth-Anthoensen Press, The, Portland, Maine.
Spokane Paper and Stationery Co., Spokane, Wash.
Springer, Walter G., Carthage, Mo.
Standard Bindery, Inc., Detroit, Mich.
Standard Paper Co., Milwaukee, Wis.
Standard Printing and Publishing Co., Huntington, W. Va.
Stanford University Press, Stanford University, Calif.
Stanhope Bindery, Inc., Boston, Mass.
State Co., The, Columbia, S. C.
Stationers Loose Leaf Co., Milwaukee, Wis.
Stenglein Printing Co., Marquette, Mich.
Stewart Co., S. A., Pittsburgh, Pa.
Stikeman & Co., Inc., New York, N. Y.
Stilwell Paper Co., E. J., St. Paul, Minn.
Stokes Co., Frederick A., New York, N. Y.
Stoll & Westerlin, Chicago, Ill.
Stone & Co., Jos. J., Greensboro, N. C.
Straub Bindery, Henry, Buffalo, N. Y.
Strickland Paper Co., Inc., Birmingham, Ala.
Stuarts Wilmington Bookbindery, Wilmington, Del.
Studio Publications, Inc., The, New York, N. Y.
Stuebe Binding and Printing Co., Green Bay, Wis.
Success Bookbindery, New York, N. Y.
Sudden Service Bindery, Chicago, Ill.
Superior Bindery, Chicago, Ill.
Sutherland Binder and Punch Co., New York, N. Y.
Sweetnam Inc., Geo. H., Cambridge, Mass. (In principle.)
Tapley Co., J. F., Long Island City, N. Y.
Taylor & Greenough Co., The, Hartford, Conn. (In principle.)
Tennessee Paper Mills, Chattanooga, Tenn.

Texas, University of, Austin, Tex.
Theosophical University Press, Point Loma, Calif.
Thornton-Levey Co., Indianapolis, Ind.
Todd Co., Inc., Rochester, N. Y.
Tonawanda Boxboards, Inc., Tonawanda, N. Y.
Torch Press, The, Cedar Rapids, Iowa.
Toronto Paper Manufacturing Co., Toronto, Ohio.
Trade Ruling and Binding Co., The, Cleveland, Ohio.
Traver Corporation, Chicago, Ill.
Triangle Bookbinding Co., Detroit, Mich.
Trimmer Printing Co., York, Pa.
Tri-State Wholesale Paper Co., Shreveport, La.
Trussell Manufacturing Co., Poughkeepsie, N. Y.
Union Bindery, New York, N. Y. (In principle.)
Union Binding and Cover Co., West Springfield, Mass.
Union Paper Supply Co., Los Angeles, Calif.
United Bindery, New York, N. Y.
United Brethren Publishing House, Dayton, Ohio.
Universal Bookbinding Co., Inc., New York, N. Y.
Universal Old Hickory Bindery, Nashville, Tenn.
University Publishing Co., The, Lincoln, Nebr.
Uptown Bindery, Inc., New York, N. Y. (In principle.)
Utah Library Bindery, Salt Lake City, Utah.
Vail Ballou Press, Inc., Binghamton, N. Y.
Vanguard Press, Inc., New York, N. Y. (In principle.)
VanMale, John, Denver, Colo. (In principle)
Van Nostrand Co., Inc., D., New York, N. Y. (In principle.)
Van Rees Book Binding Corporation, New York, N. Y.
Victory Bindery, New York, N. Y.
Virginia Paper Co., Washington, D. C.
Von Heill, Wm., Brooklyn, N. Y.
Voss Co., The Herman, Milwaukee, Wis.
Wagenfuehr Bookbinding Co., F. A., St. Louis, Mo.
Waldorf Bindery Co., Inc., St. Paul, Minn.
Walker Co., Frank R., Chicago, Ill.
Walker Goulard Plehn Co., Inc., New York, N. Y.
Ward's Bindery, Seattle, Wash.
Warne & Co., Inc., Frederick, New York, N. Y.
Wascher's Bindery and Specialty Shop, Champaign, Ill.
Washington Printing & Binding Co., Seattle, Wash.
Waverly Press, Inc., Baltimore, Md.
Webb Publishing Co., St. Paul, Minn.
Weise Binding Co., Cincinnati, Ohio.
Welsh-Richards Co., Inc., Aberdeen, Wash.
Wenatchee Printing Co., Wenatchee, Wash.
Wesby & Sons, J. S., Worcester, Mass.
West Coast Printing & Binding Co., Portland, Oreg.
West End Press, Inc., The, Cicero, Ill.
Western Baptist Publishing Co., Kansas City, Mo.
Western Newspaper Union, Des Moines, Iowa.
Western Newspaper Union, Salt Lake City, Utah.
Westinghouse Electric and Manufacturing Co., East Pittsburg, Pa.
Wetzel Publishing Co., Inc., Los Angeles, Calif.
White Book House, The, Chicago, Ill.
Whitney-Graham Co., Inc., The Buffalo, N. Y.
Whitney Paper Co., Wichita, Kans.
Wiley & Sons Inc., John, New York, N. Y.
Williams & Wilkins Co., Baltimore, Md.
Williamsport Printing and Binding Co., Williamsport, Pa.
Wilson Paper Co., B. W., Richmond, Va.
Wilson-Jones Co., Chicago, Ill.
Winckler Bindery, Cincinnati, Ohio.
Winston Co., John C., The, Philadelphia, Pa. (In principle.)
Wolff Estate, Harris, New York, N. Y.
World Book Co., Yonkers, N. Y.
Worth Bindery, The, New York, N. Y.
Worth Bindery, Fort Worth, Tex.
Worzalla Publishing Co., Stevens Point, Wis.
Yakima Bindery & Printing Co., Yakima, Wash.
York Printing Co., The, York, Pa.
Yorkville Bindery, New York, N. Y.
Youngstown Printing Co., Youngstown, Ohio.
Zellerbach Paper Co., San Francisco, Calif.
Zimmerman Co., E. F., Watsonville, Calif.
Zimmerman, E. F. W., Sheboygan, Wis.
Zimmerman, Wm. G., Newark, N. J. (In principle.)
Zonne & Co., Chicago, Ill.

COMMERCIAL STANDARDS

CS no.	Item
0-30.	The commercial standards service and its value to business.
1-32.	Clinical thermometers (second edition).
2-30.	Mopsticks.
3-28.	Stoddard solvent.
4-29.	Staple porcelain (all-clay) plumbing fixtures.
5-29.	Steel pipe nipples.
6-31.	Wrought-iron pipe nipples (second edition).
7-29.	Standard weight malleable iron or steel screwed unions.
8-33.	Gage blanks (second edition).
9-33.	Builders' template hardware (second edition).
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11-29.	Regain of mercerized cotton yarns.
12-35.	Fuel oils (third edition).
13-30.	Dress patterns.
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15-29.	Men's pajamas.
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25-30.	Special screw threads.
26-30.	Aromatic red cedar closet lining.
27-30.	Plate glass mirrors.
28-32.	Cotton fabric tents, tarpaulins, and covers
29-31.	Staple seats for water-closet bowls.
30-31.	Colors for sanitary ware.
31-33.	Wood shingles (second edition).
32-31.	Cotton cloth for rubber and pyroxylin coating.
33-32.	Knit underwear (exclusive of rayon).
34-31.	Bag, case, and strap leather.
35-31.	Plywood.
36-33.	Fourdrinier wire cloth (second edition).
37-31.	Steel bone plates and screws.
38-32.	Hospital rubber sheeting.
39-32.	Wool and part wool blankets.
40-32.	Surgeons' rubber gloves.
41-32.	Surgeons' latex gloves.
42-32.	Fiber insulating board.
43-32.	Grading of sulphonated oils.
44-32.	Apple wraps.
45-33.	Douglas fir plywood.
46-33.	Hosiery lengths.
47-34.	Marking of gold-filled and rolled-gold-plate articles other than watch cases.
48-34.	Domestic burners for Pennsylvania anthracite (underfeed type).
49-34.	Chip board, laminated chip board, and miscellaneous boards for bookbinding purposes.
50-34.	Binders board for bookbinding and other purposes.

NOTICE.—Those interested in commercial standards with a view toward accepting them as a basis of every day practice in their industry, may secure copies of the above standards, while the supply lasts, by addressing the Division of Trade Standards, National Bureau of Standards, Washington, D. C.

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